JUL

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Metropolitan Life Insurance Co.

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PUBLIC HEALTH DURING THE FIRST QUARTER OF 1921

Health conditions among the wage-earning groups of the United States and Canada during the first quarter of 1921 were the best that have ever obtained during this season of the year. This is indicated by the mortality experience of the Industrial Department of the Metropolitan Life Insurance Company.

Comparison with the figures for the corresponding period of 1920 shows marked reductions for both white and colored policyholders. The facts may be summed up as follows: During the first three months of last year influenza was epidemic; this year there has been very little influenza. The disease caused 5,397 deaths during the first quarter of 1920 and only 475 deaths during the same period in 1921. A high pneumonia death rate accompanied the 1920 influenza epidemic. In 1921 pneumonia declined over fifty per cent. The tuberculosis mortality has decreased by almost one-quarter and that from heart disease by about one-sixth. Nephritis and Bright's disease and cerebral hemorrhage also showed considerable decreases. Among the epidemic diseases of children measles and whooping cough showed marked declines.

The diphtheria situation was bad in the early part of 1920 and there was no improvement this year. The rates are substantially the same. The mortality from scarlet fever was higher during this quarter of 1921 than during the winter of 1920. Accidental and unspecified violence, as a class, showed slightly lower rates than for last year for both white and colored policyholders. Suicides and homicides, however, increased this year. Automobile accidents showed a much higher rate than during the early part of 1920, and if this is maintained throughout the year, a new maximum will be established for this class of accidents.

A detailed statement of the conditions actually registered is shown in the table below.

Death Rates per 100,000 Persons Exposed, First Quarters of 1919, 1920 and 1921 Compared by Color for Principal Causes of Death

Metropolitan Life Insurance Company—Industrial Department

Causes of Death	White			Colored		
	Jan.-Mar. 1921	Jan.-Mar. 1920	Jan.-Mar. 1919	Jan.-Mar. 1921	Jan.-Mar. 1920	Jan.-Mar. 1919
All Causes of Death	890.8	1313.4	1486.0	1375.3	1962.4	2036.9
Typhoid fever	3.8	4.5	4.6	3.3	8.9	9.1
Measles	5.5	14.8	3.1	1.8	3.8	2.0
Scarlet fever	11.0	9.1	4.9	3.6	††	.6
Whooping cough	5.5	9.4	3.8	7.9	9.2	2.8
Diphtheria and croup	30.4	30.6	24.6	5.8	6.7	7.1
Influenza	12.3	163.4	298.1	28.5	227.9	331.0
Tuberculosis (all forms)	106.5	138.4	157.7	265.7	310.1	310.4
Tuberculosis of lungs	96.6	125.3	144.2	247.2	286.3	287.7
Tuberculous meningitis	5.2	6.4	6.1	5.6	4.8	7.6
Other forms of tuberculosis	4.7	6.7	7.5	13.0	18.9	15.0
Meningitis—total	5.1	7.0	8.7	3.8	8.6	6.2
Cerebrospinal meningitis	4.0	5.7	7.3	3.1	7.5	5.9
Cerebral hemorrhage; apoplexy	63.3	70.3	63.8	90.8	96.2	97.4
Organic diseases of heart	124.5	146.7	137.1	168.6	200.7	195.7
Total respiratory diseases	120.1	266.9	289.5	192.3	429.7	416.8
Bronchitis	7.1	14.7	13.1	13.2	19.4	14.7
Bronchopneumonia	37.0	77.0	72.9	48.3	90.2	84.1
Pneumonia-lobar and undefined	66.2	160.8	192.1	117.7	300.6	300.7
Other diseases of respiratory system	9.9	14.4	11.5	13.0	19.4	17.3
Diarrhea and enteritis	9.8	9.5	10.2	10.2	10.5	12.7
Under 2 years	3.3	4.2	4.4	1.8	4.0	2.3
2 years and over	6.5	5.3	5.8	8.4	6.5	10.5
Nephritis and Bright's disease	72.6	89.2	86.8	122.1	152.2	141.9
Total puerperal state	21.6	32.6	29.0	29.5	36.9	28.9
Puerperal septicemia	10.6	8.5	5.7	12.7	15.1	10.2
Puerperal albuminuria and convulsions	4.1	5.0	5.8	6.4	6.5	5.7
Other diseases of puerperal state	6.9	19.1	17.5	10.4	15.4	13.0
Total external causes*	57.3	60.6	120.2	96.4	88.6	129.1
Suicides	7.3	5.3	7.5	6.1	3.5	4.8
Homicides	3.3	2.9	3.4	27.2	18.3	28.6
Accidental and unspecified violence**	46.7	51.6	60.1	63.1	66.0	69.4
Accidental drowning	3.3	2.1	†	2.5	2.4	†
Automobile accidents	8.0	5.7	†	8.1	2.7	†
War deaths	.1	.9	49.2	††	.8	26.3
All other and ill-defined causes of deaths	241.4	260.4	244.0	345.1	372.6	345.2

* Includes "war deaths."
** Excludes "war deaths."

† Data unavailable.
†† No Deaths.

HEALTH PROBLEMS OF THE IMMIGRANT

The enactment of the new Immigration Law calls attention to the important health problems which arise out of the presence of the very large number of foreign born in the population of the United States and Canada. The Census of 1920 showed that close to fourteen millions, or 13.0 per cent. of the total population, were foreign born whites. Not only their large numbers, but their ignorance of our language, different standards of living, foreign social habits, poverty, and unfamiliarity with the requirements of modern sanitary principles create a whole series of difficulties which health officers of states and cities must overcome in the performance of their work. In some communities, such as Pittsburgh, Buffalo, Detroit, and the large industrial centers on our eastern seaboard, the foreign-born and their families form the major part of the population. In such communities, the success or failure of the health officer will often depend upon whether or not he has made special provision for the care of the foreign born. They, more than any group in our cities, require particular attention for the protection not only of their own health but that of the rest of the community.

Important results will follow an intensification by health officers of their campaign to reduce infant mortality among the foreign born. The studies of the Children's Bureau have shown very conclusively that among certain nationalities, especially the Slavic races, the infant mortality rate is very high—many deaths occurring from causes which are easily preventable through the application of ordinary sanitary precautions. The communicable diseases of childhood are particularly dangerous among some of the foreign stocks, especially the Italians among whom in many instances measles and scarlet fever develop into fatal pneumonias. In the ages of adult life, tuberculosis is a more serious problem among the foreign born than among the native stock, being especially dangerous among the Irish of our cities. The degenerative diseases, including organic heart disease and Bright's disease, have been shown to be much more prevalent among the foreign-born stocks, more especially among the Irish and German races. Practically every foreign race shows higher cancer rates than do the native born—Italians being the only nationality excepted. Each of these conditions points definitely to the need of concentrating health work upon the foreign populations in order to reduce the death rate.

Recently the inadequate housing facilities have unfavorably affected the health of the immigrant. Tenements are now crowded far beyond their capacity; they are stretched to accommodate additional families; condemned houses are pressed into service; and to cap the climax boarders are taken in by the individual families in order to make possible the payment of the higher rents demanded. Under such conditions there is danger of physical and moral deterioration. If this is true for the general population the well being of the foreign born is even more seriously threatened. By the very nature of his economic status, the foreigner is forced into the cheapest and most undesirable neighborhoods where the conditions of congestion are undoubtedly worst. Poor ventilation, windowless rooms and lack of sunshine reduce bodily vigor and increase susceptibility to disease. The very first requirement of a progressive health campaign is the acceleration of housing construction, especially in the cities where the foreign population is most concentrated.

In addition to disease the foreign born in our midst suffer particularly from high accident rates. This applies especially to the non-English speaking workers who, more than others, suffer from industrial accidents. Wherever data are carefully kept the foreign born show accident rates approximately double that of the native born. The Commonwealth Steel Company of St. Louis, states that 80 per cent. of the injuries occurring among their workers were among the non-English speaking employees who constituted only 34 per cent. of the force; and the Bethlehem Steel Company in like manner records that two-thirds of the more serious accidents and nearly one-half of the fatal accidents occurred among the foreign born who constituted only 30 per cent. of the employees. According to the Report of the New York State Industrial Commission 70 per cent. of the applicants who applied for compensation required the services of an interpreter. If a man cannot present his claim in English he is obviously unable to understand work directions and safety regulations and thus is exposed to needless injury. Inability to read English makes placards of warning futile and safety precautions lose their force because the worker is ignorant of their use. Safety committees have been the first to recognize the importance of these facts and have attempted to meet the situation by conducting English classes for the benefit of the workers. The Ford Motor Company officials state that accidents have

fallen off 54 per cent. since their school was started in May, 1914. Apart from the conservation of life and limb, the use of a common language would promote better understanding in industry; and this in itself is an inestimable benefit.

From whatever angle we view the health problem of the immigrant we are impressed with the necessity for specialized effort to conserve his health. Physicians, industrial and visiting nurses, social workers, workers in health departments and schools, should seek to understand the social habits, native characteristics, and cultural background of the foreign population and deal sympathetically with them. Great results will follow the breaking down of the barrier of ignorance and prejudice which surround the newcomer in our midst. Americanization work bringing him an increased knowledge of our institutions, educational work in the factory, the development of public health lectures and the wider distribution of health and safety literature will, in a short time, help in the readjustment of the foreigner to his new environment. In the main, the public health officer holds the key to this process.

SOME FACTS ABOUT ANTHRAX

Fatal cases of anthrax are very rare indeed. In 1919 there were only 45 deaths reported from this disease in the Registration Area of the United States. Among the many millions of Industrial policyholders of the Metropolitan Life Insurance Company, there were only four deaths in 1920. These figures are a good indication of the generally favorable sanitary conditions which prevail in establishments where hides, wool, bristles and other animal products are handled. These industries together employ large numbers of workers and it is gratifying that the number of deaths occurring from anthrax is so small.

The following data from the experience of the Metropolitan will indicate the conditions under which the disease is contracted. There were 44 deaths among the Company's Industrial policyholders from anthrax during a period of six years, 1915 to 1920 inclusive. In 18, or 41 per cent. of these fatal cases, the infection was directly traceable to the occupation of the deceased. Eight of the deceased were employed in the tannery industry. This confirms the general belief that many of these cases arise out of the unsanitary condition of hides shipped from foreign

countries. Two others were reported as leather workers and one as a shoemaker. There were two deaths among workers in the hair industry; two more were engaged in the brush-making industry, and three others handled either hides, skins or wool.

Two additional deaths were probably of occupational origin. One was a soap factory employee and the other a longshoreman. In nine other cases the occupation was possibly a factor.

In fifteen of the cases, however, the evidence at hand would indicate that the deaths were probably non-occupational. In two, the decedents are said to have been infected through shaving brushes. In five cases, the decedents were housewives or housework ers, which is an indication that infection may reach the home in some product or other of household use.

There were no children among the 44 decedents, of whom 37 were males and 7 females. Of the latter one was a brush-maker and one a laundry-worker, both occupations in which there is some danger of contracting anthrax.

RESULTS IN SCHICK TEST AND IN ACTIVE IMMUNIZATION AGAINST DIPHTHERIA.

We have from time to time, during this year and during 1920, directed attention to the high diphtheria death rates. The heavy case incidence and mortality have continued in spite of the complete knowledge available to physicians and health officials of procedures for the control of this disease. Health officers in certain of the large cities have been well aware of their responsibilities in this connection and have attempted to meet the situation through the more extensive use of the Schick test and through immunization of susceptibles thus discovered. This procedure has been used widely in recent months in New York City and in other municipalities. It is time to call attention to some of the results which have followed this procedure.

Doctors Park and Zhinger of the New York City Department of Health have tested over 52,000 children in forty-four schools of Manhattan and Bronx during the late winter and spring of 1921. Some of their conclusions on Schick testing and active immunization which these many tests have disclosed are as follows:

1. Children from the homes of the well-to-do have a higher percentage of positive Schick reactions than do children of poorer groups of the population living in closely crowded neighborhoods.

2. "Contact immunity" seems to be an important element in the establishment of so-called "natural immunity." Repeated exposure to the diphtheria bacillus in the congested districts seems to cause not only actual clinical cases of diphtheria, but also may produce mild infections of the mucous membranes which are not recognized as diphtheritic, but which may lead to the gradual development of antitoxic immunity.

3. There seems to be a racial factor in immunity to diphtheria. Negro children living in crowded neighborhoods show a high proportion of positive Schick reactions. Children of Italian extraction, living in the crowded East Harlem section, gave the lowest percentage of positive reactions. Jewish children also living in congested sections of the city showed a low, and children living in the less crowded areas, a high percentage of positive reactions.

4. There seems to be a "family factor." There was a marked tendency for all the children of a given family to show the same Schick reaction. Where exceptions to this rule were found, the younger children, usually gave a positive and the older children a negative reaction. Again, different families living under closely parallel conditions would often show entirely different Schick reactions. With regard to the capacity for antitoxin production, there is probably an hereditary tendency on the part of the children of a family to respond either readily, or slowly and poorly, to repeated mild infections with the diphtheria bacillus.

5. Children once reacting negatively to the Schick test continue their immunity for considerable periods of time.

6. Natural antitoxin immunity in human beings, therefore, can be interpreted as due to a combination of factors in which contact immunization seems to play the most important part. The racial and hereditary factors, however, must also be considered.

7. Schick-positive children who have received toxin-anti-toxin treatment should not be certified as immunes until a retest has been made.

The experience of Doctors Park and Zhinger appears to indicate that, for the present at least, it will be a better procedure to continue to give the Schick test in conjunction with the prophylactic treatment rather than to give the prophylactic treatment alone, as has been done in some cities. Otherwise, large numbers of children, especially the "combined" reactors, will show severe reactions and, in this way, the good will of the parents, of family physicians and of the children themselves may be lost.

The possibilities of diphtheria prevention through Schick testing and subsequent immunization of susceptibles are so great that every effort should be made to arouse public interest in the work, and every care taken to have the tests made accurately, immunization performed thoroughly and the results checked by retesting of the children who have been treated with toxin-antitoxin. Observance of the proper procedure will win public support wherever it is tried. In New York City, strict observance of approved procedure with respect to the strength of toxin used in the test, the use of a control to detect pseudonegative reactors, a proper technique of administering the test and thorough publicity, inviting the cooperation of parents, teachers, family physicians and children, has resulted in these 52,000 tests without the slightest justifiable protest from the public.

HEALTH RECORD OF MAY, 1921

The death rate in May not only continued the very favorable health records of the first four months of this year but improved upon them. The rate for May, 8.6 per 1,000, was 7.2 per cent. less than for April of this year and 7.8 per cent. less than for May of last year.

The outstanding features of the month's experience are the very low rates for tuberculosis, organic heart disease and pneumonia. As might be expected with the advance of the season, pneumonia declined most of the three, from 88.0 to 71.0 per 100,000, which corresponds to a drop of 19.3 per cent. Most other conditions showed decreases from the preceding month. But, very encouraging indeed is the decline of 19.1 per cent. for the puerperal diseases. This suggests that the number of deaths from maternity may soon begin to show evidences of permanent improvement.

There are a few conditions that are still causes for concern and much public activity. The diphtheria rate, for example, 18.5 per 100,000, is substantially the same as that for April. There was even a slight increase, although a seasonal drop is expected at this time of the year. The rate is considerably higher than that for the same month last year. The attention of health officers must continue to be focused on this preventable disease for some time. The scarlet fever rate declined during the month appreciably, but the conditions are still very much worse than

they were last year at this time. The rate for May, 7.5, is 56.3 per cent. higher than for May, 1920, when it was 4.8.

The automobile accident rate declined slightly as compared with April. The May rate, however, is still well above that for the same month of 1920. It is still impossible to say whether we have arrived at a turn in the serious automobile situation.

Health conditions in the general population, likewise, are unusually good. The death rate of the large cities in May was 12.0 per 1,000 estimated population. There has been a continuous decline since March when it was 13.8. The figure for May is also 1.8 points lower than for the corresponding month of 1920.

Fewer fatal cases of communicable diseases are being reported. Smallpox has been epidemic in Newark, Ohio, where the Health Department closed all public, parochial and private schools. Smallpox quarantine regulations were promulgated in York, Pa., during the month. The greatest number of cases in the United States occurred in Alabama, California, Colorado, Illinois and Minnesota. According to the April report, the Navy has suffered more from this disease during the present year than at any time during the past ten years.

A typhoid fever epidemic, traceable to milk, has occurred in Waltham, Mass. A case of typhoid fever, the second to occur this year, was reported among the troops in the United States Army. The case was that of a contract surgeon who had never been vaccinated. During the last week in May, twelve cases of paratyphoid were reported from Hartford and two from Simsbury, Conn. This disease was also reported from Maryland, Florida, Georgia and Kentucky.

Scarlet fever caused the closing of a school in Elizabeth, New Jersey. There were about forty cases in the section of the city near the school.

Illinois, Massachusetts, New York and New Jersey reported many cases of diphtheria, and Connecticut a large number of diphtheria carriers. In New York City, a diphtheria symposium was held by the New York Medical Society to explain to the city's doctors the Schick test, as well as the use of toxin-antitoxin.

Lethargic encephalitis has shown a marked increase in Ohio. It has been more prevalent in the cities than in the rural districts and has been observed more often in males than in fe-

males. Several cases have also been reported from California, Illinois, New Jersey and New York.

A case of bubonic plague caused by the bite of a rat occurred in Limestone County, Texas.

An epidemic of typhus fever has started among the Navajo Indians of Northeast Arizona and Northwest New Mexico. There is serious danger of this spreading over the entire reservation. When the disease first made its appearance, it was diagnosed as influenza, and it is very probable that the disease was much more widespread and caused more deaths than the reports indicate. A case of typhus fever was reported to the Baltimore Health Department during the first week in May. A death occurred on one of the steamers arriving in New York City and one case was reported from the Borough of the Bronx.

The malaria admission rate for the Army during the first week in May was the highest reported for any week this year. The malaria situation is bearing out the predictions made last fall, to the effect that with the increased curtailment of funds available for mosquito control work, the rate would soon be as high as during the years immediately prior to the world war.

Final arrangements have been completed for a demonstration in public health organization to be carried out on Cape Cod, Mass., the State Board of Health and the United States Public Health Service co-operating. The United States Public Health Service, the Maryland State Department of Public Health, the School of Hygiene and Public Health of Johns Hopkins University and the International Health Board will participate in financing an experiment in public health work which is expected to produce far-reaching results. The plan is to institute in some Maryland county an ideal health administration in order to show what can be done when means are provided for the application of what modern science has developed in stamping out disease.

The following table gives the mortality data for the months of May and April, 1921, and for the whole year, 1920.

METROPOLITAN LIFE INSURANCE COMPANY

Death Rates per 100,000 for Principal Causes, Premium-paying Business in Industrial Department

MONTHS OF APRIL AND MAY, 1921

CAUSES OF DEATH	RATE PER 100,000 LIVES EXPOSED		
	May, 1921	Apr., 1921	Year 1920*
TOTAL—ALL CAUSES	855.1	921.5	989.4
Typhoid fever	3.8	3.3	6.7
Measles	4.8	5.4	8.5
Scarlet fever	7.5	9.4	6.0
Whooping cough	3.8	3.8	6.6
Diphtheria	18.5	18.4	22.1
Influenza	9.8	14.8	53.5
Tuberculosis (all forms)	125.0	133.4	137.9
Cancer	69.9	70.0	69.8
Meningitis (all forms)	6.8	7.1	5.2
Cerebral hemorrhage	58.0	57.3	61.3
Organic diseases of heart	116.6	124.3	117.0
Pneumonia (all forms)	71.0	88.0	106.1
Other respiratory diseases	13.3	13.1	18.2
Diarrhea and enteritis	9.5	9.6	15.8
Bright's disease	69.7	76.8	70.8
Puerperal state	17.8	22.0	23.0
Suicides	7.8	7.2	6.1
Homicides	4.6	6.1	5.8
Other external causes (excluding suicides and homicides)	48.9	45.1	60.1
Traumatism by automobile	9.8	10.2	11.1
All other causes	188.4	206.4	188.9

*Based upon final tabulations for the year 1920. Changes from preliminary figures shown in previous Bulletins are unimportant.

Correspondence on the subjects discussed in these BULLETINS may be addressed to the Editor:

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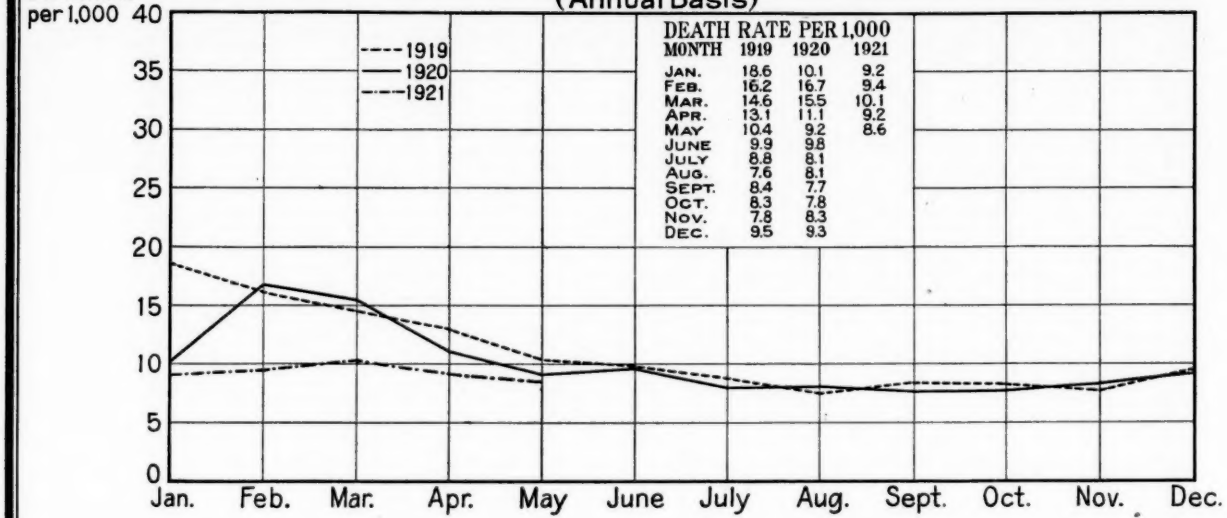
Metropolitan Life Insurance Co.

INDUSTRIAL DEPARTMENT

DEATH RATE PER 1,000 in specified months of 1919, 1920, 1921

(Annual Basis)



DEATH RATE PER 1,000			
MONTH	1919	1920	1921
JAN.	18.6	10.1	9.2
FEB.	16.2	16.7	9.4
MAR.	14.6	15.5	10.1
APR.	13.1	11.1	9.2
MAY	10.4	9.2	8.6
JUNE	9.9	9.8	
JULY	8.8	8.1	
AUG.	7.6	8.1	
SEPT.	8.4	7.7	
OCT.	8.3	7.8	
NOV.	7.8	8.3	
DEC.	9.5	9.3	

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